USGS

GCMRC FY04 AMP Work Plan

Revised Edition
TWG Meeting
May 30, 2003
Phoenix, AZ

Development of the FY04 Plan

- First presented at Feb 2002 TWG mtg
- Budget Ad Hoc Review Prior to May 2002 TWG meeting
- Further Budget Ad Hoc Review and TWG Recommendation to AMWG-May 2002 TWG Meeting
- AMWG Meeting Discussion and Approval of 'Bottom Line' in July 2002

Development of the FY04 Plan-continued

- Budget Ad Hoc Review in Context of Experimental Flows-November, 2002
- USGS Announces Assessment Policy Effective FY04 January, 2003
- Budget Ad Hoc Holds 2 Meetings and 2 Conference Calls February-May, 2003
- GCMRC Revises FY04 Work Plan Based on Assessment Charge & Other Factors-May, 2003

USGS Assessment Policy

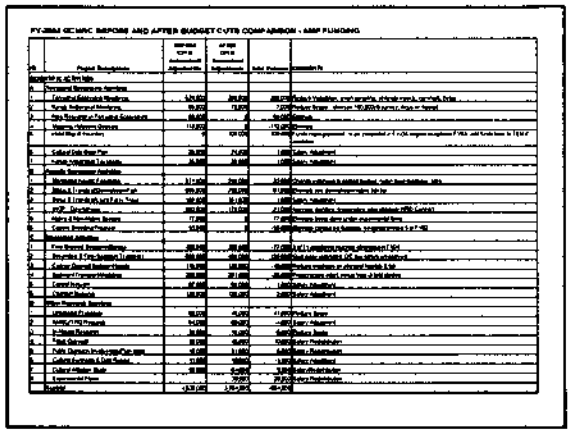
- USGS Assesses 15% Indirect Cost Charge on all DOI reimbursable funds
  - 11% Assessment to USGS Headquarters
  - 4% Assessment to Cost Center-e.g. SBSC
  - Administrative costs have been transferred to the SBSC and will be funded by the assessment
- 'Pass Through' Funds Assessed at 4% rate
  - Approximately $3.0 million of GCMRC budget Treated as 'Pass Through'

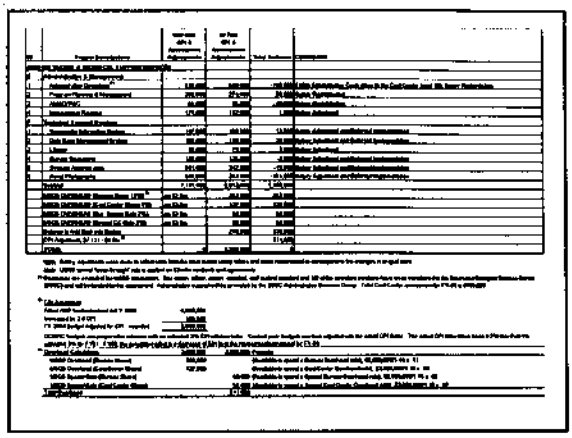
Additional Cost Adjustments for FY04 Budget

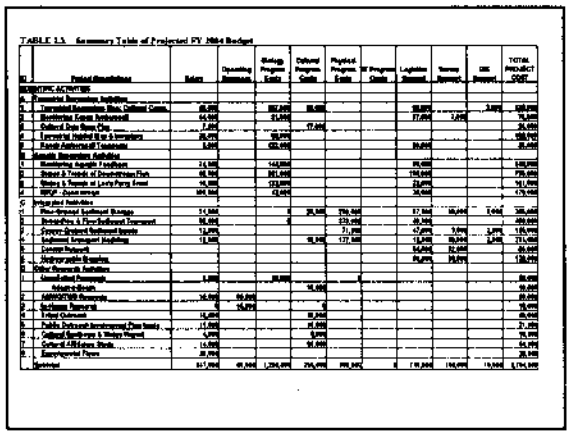
- CPI Adjustment
  - For Planning Purposes GCMRC Annual Budget Increased by 3% Annually
  - Actual CPI Adjustment Has Averaged Only 1.5-2% Over Previous Three Years
  - Result Has Been An Overestimate of Available Funds by ~$330,000

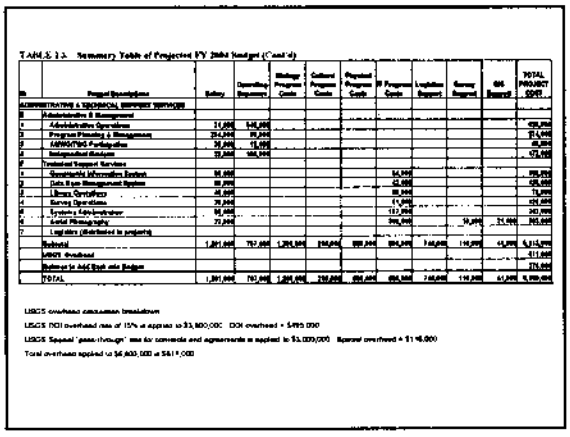
Net Reduction in FY04 GCMRC Budget

- USGS Assessment -$611,000
- CPI Adjustment - $311,000
- Total-$922,000
- Budget reductions accomplished by combination of elimination of projects and reducing project budgets









Biological Resources Program FY04

- Terrestrial Ecosystem Activities(proposed)
  - 4 projects
    - » 3 ongoing 1w/new RFPs
    - » 1 new (change research emphasis)
    - » 1 project eliminated
- Aquatic Ecosystem Activities(proposed)
  - 4 projects
    - » 4 ongoing, 2 w/new RFPs,
    - » 2 projects eliminated

Terrestrial Ecosystem Activities(FY04proposed)

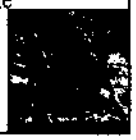
- Terrestrial Ecosystem Monitoring
  - (new RFP)
- Kanab Ambersnail Monitoring
- Terrestrial Mapping & Inventory
- Kanab Ambersnail Taxonomy

A.1 Terrestrial Ecosystem Monitoring

- **Status**: ongoing w/new 5 yr RFP
- **Objective**: *measure change in composition and structure of vegetation in OHWZ &NHWZ communities-relate to changes in animal & bird distribution, supports Goal 6 MO # 6.1 thru 6.7 and numerous IN's*
- **Schedule:** 2001-2004, New 5 yr RFP in FY04
- **FY04 Cost Projection:** $338,000-reduction in sampling for vegetation and avifauna, eliminate herps, insects, mammals-focus on data synthesis & reporting

A.2 Monitoring Kanab Ambersnail

- **Status**: ongoing
- **Objective**: *monitor and provide population estimates of KAS at Vasey's up to OHWZ, Add work above 100,000cfs in FY04 Supports MO's 5.1 & 5.2*
- **Schedule:**2001-2005
- **FY04 Cost Projection:** $79,000-eliminate sampling above 100,000 cfs



Research in Terrestrial System

- **Status**: ongoing (**new** focus)
- **Objective**: *study dynamics of OHWZ vegetation community*. The area represents a unique corridor of vegetation comprised of mesquite and acacia as well as other species, which developed in the area above the zone of disturbance resulting from periodic high water in the predam period. Whether this community will persist over time, migrate down slope toward the New High Water Zone, senesce, or remain stable will be the focus of this research. Supports MO 6.3
- **Schedule:**2004-2005
- **FY04 Cost Projection:** project eliminated

A.8 Kanab Ambersnail Taxonomy

- **Status**: New for FY04
- **Objective**: *resolve taxonomic status of KAS at Vasey's using molecular genetics and morphometric approaches. Supports MO 5.1*
- **Schedule:**2003-2005
- **FY04 Cost Projection:** $25,000 ($100K USGS Appropriations)

Aquatic Ecosystem Activities (proposed)
4 Projects

- Monitoring Aquatic Foodbase
- Monitoring Downstream Fish (**new RFP**)
- Monitoring Lees Ferry Trout Fishery (**new RFP**)
- IWQP Downstream Activities
- Native & Non-Native Fish Interactions (**eliminate**)
- Captive Breeding Program Feasibility (**eliminate**)

B.1 Monitoring Aquatic Foodbase

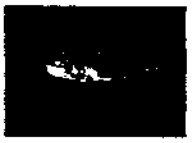
- **Status**: ongoing
- **Objective**: *monitor benthic algal and invertebrate community for composition and trends, develop organic carbon budget for CRE. Supports MO's 1.2, 1.4, 1.5*
- **Schedule:** 2002-2005
- **FY04 Cost Projection:** $248,000

B.2 Monitoring Status & Trends of Downstream Fish Community

- **Status**: ongoing (new 5 yr RFP)
- **Objective**: *monitor status and trends of native and non-native fish in CRE downstream of Lees Ferry, including HBC. Supports Goal 2, MO's 2.1,2.2,2.3,2.8, and Goal 4*
- **Schedule:** 2001-2004, new 5 yr RFP in FY04
- **FY04 Cost Projection:** $795,000-eliminate one native fish trip

B.3 Monitoring Status & Trends of Lees Ferry Trout Fishery

- **Status**: ongoing, new 5 yr RFP
- **Objective**: *monitor status and trends of rainbow trout in Glen Canyon. Supports MO 4.1*
- **Schedule:** 2001-2004, new 5 yr RFP
- **FY04 Cost Projection:** $161,000



B. 4 IWQP Downstream Activities

- **Status**: ongoing
- **Objective**: *develop downstream water quality monitoring program in CRE. Supports MO 7.1 & 7.2*
- **Schedule:** 2002-2003, begin long-term monitoring in FY04
- **FY04 Cost Projection:** $179,000, increase monitoring devices and temperature-eliminate WRD contract

Native/Non-Native Fish Research

- **Status**: new (ongoing with new topic)
- **Objective**: *conduct relevant research on native/non-native fish interactions in CRE,* Projects will include predator - prey interactions, competition, and bioenergetics model development. This research is intended to provide improved mechanistic understanding of the role of non-native fishes in the population dynamics of native species. Also includes design and technical assistance for non-native fish control efforts.
- **Schedule:** 2001-2003, new topic in FY04
- **Project eliminated-subsumed in experimental flows and non-native fish control**

Captive Breeding Program Feasibility

- Status: new
- **Objective**: *determine feasibility of captive breeding strategy to preserve genetic integrity & augment HBC & other populations, supports Goals 2 & 4*
- **Schedule:** proposed new in FY04
- **Project eliminated –conducted in FY03**

Integrated Resources Program
FY 2004

- Integrated Aquatic/Terrestrial Ecosystem Activities (all ongoing since FY 2001)
  - **4 projects**
    - **» 3 Core-Monitoring & Research**
    - **» 1 Research (fine-sediment transport modeling)**

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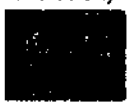
Integrated Aquatic/Terrestrial Ecosystem Activities (FY04)

- Fine-Sediment Storage Changes
- Fine-Sediment Mass Balance (influx vs. efflux of sand & fines)
- Coarse-Sediment Inputs & Impacts
- Sediment-Transport Modeling (fate of tributary inputs and sand-bar evolution)



C.1 Fine-Sediment Storage Monitoring & Research

- **Status:** ongoing, year 4 of 5 (phase I)
- **Objective:** measure change in the area, volume and grain-size characteristics of sand bars above & below the 8,000 cfs flow elevation, supports Goal 8, MO's 8.1 through 8.5
- **Schedule:** 2001-2005, Review and revision of monitoring protocols for fine-sediment storage in FY05 & implementation of long-term monitoring in FY06
- **FY04 Cost Projection:** $385,000 (budget reductions mean that only 8 of 11 reaches will be monitored in FY04)

C.2 Fine-Sediment Mass Balance (Influx vs. Efflux)

- **Status:** ongoing, year 4 of 5 (phase I)
- **Objective:** measure high-resolution changes in mass flux of sand and fines under range of dam operations and tributary inputs, supports Goal 8, MO's 8.1 through 8.5
- **Schedule:** 2001-2005, Review and revision of monitoring protocols for fine-sediment storage in FY05 & implementation of long-term monitoring in FY06
- **FY04 Cost Projection:** $470,000 (budget reductions mean that Glen Canyon gage is eliminated in FY04, & errors in efflux below Phantom remain unresolved)

C.3 Coarse-Sediment Inputs & Impacts Monitoring & Research

- **Status:** ongoing, year 4 of 5 (phase I)
- **Objective:** measure area, volume and grain-size characteristics of coarse sediment inputs from tributary debris flows and stream floods, along with changes in physical habitats under range of dam operations, supports Goal 8, MO's 8.6 through 8.7
- **Schedule:** 2001-2005, Review and revision of monitoring protocols for coarse-sediment storage in FY05 & implementation of long-term monitoring in FY06
- **FY04 Cost Projection:** $135,000 (budget reductions mean less emphasis on physical habitats & integration in FY04)

C.4 Fine-Sediment Transport Modeling & Sand-Bar Evolution

- **Status:** Research, year 3 of 3 (project completion)
- **Objective:** develop predictive capability for estimating the fate of fine-sediment inputs from Paria River, as well as simulation of multidimensional sand-bar evolution under range of dam operations & sand-supply conditions, supports Goal 8, MO's 8.1 through 8.5
- **Schedule:** 2002-2004, Project completion and review in FY04, followed by model verification in FY05 & FY06
- **FY04 Cost Projection:** $231,000 (budget remains whole so that research project can be completed as proposed)

Database Management System

- **Status:** Ongoing.
- **Objective:** Administer database, service data requests, integrate current year data, Database Development Project - conduct training and workshops
- **Schedule:** Annual
- **FY04 Cost Projection:** $128,000 (budget reductions means that database deployment will be delayed by one to two years.)

Geographic Information System

- Status: Ongoing.
- Objective: Administer GIS data systems, service data requests, integrate current year data into the system, Internet Map Server development project - Deploy IMS/SDE
- Schedule: Annual
- FY04 Cost Projection: $160,000 (budget reductions means that IMS deployment will be delayed by one to two years.)

Library

- Status: Ongoing.
- Objective: Administer library operations, service data requests, integrate current year data into the library, Library Scanning project - continue scanning photographs, videos, and documents.
- Schedule: Annual
- FY04 Cost Projection: $79,000 (budget reductions means that the library scanning project will be delayed by one to two years.)

Decision Support System

- Status: Cancelled.
- Objective: N/A
- Schedule: N/A
- FY04 Cost Projection: $0

Survey

- Status: Ongoing.
- Objective: Administer the survey program, service survey requests, report data to DBMS and GIS, CRE Control Network and CRE Hydrographic Basemap projects described on next two slides
- Schedule: Annual
- FY04 Cost Projection: $126,000 (budget reductions means that the CRE control network and hydrographic channel mapping will be delayed by one to two years.)

CRE Control Network

- Status: Ongoing.
- Objective: Rim control network and point-to-point line-of-site control network throughout the canyon corridor
- Schedule: 2001-2006
- FY04 Cost Projection: $86,000 (budget reductions means that CRE control network will be delayed by two years.)

CRE Channel Map

- Status: Ongoing.
- Objective: Hydrographic basemap of channel bottom throughout the CRE
- Schedule: 2001 - 2006
- FY04 Cost Projection: $128,000 (budget reductions means that the CRE channel map will be delayed by two years.)

System Administration

- Status: Ongoing.
- Objective: Administer network, computers, and software, service computer problem requests, upgrade computing infrastructure and provide new functionality, and web development and maintenance.
- Schedule: Annual
- FY04 Cost Projection: $242,000 (budget reductions means that hardware for deploying database, IMS, and posting electronic library materials will be delayed by one to two years.)

Aerial Photography

- Status: Ongoing.
- Objective: Collect multispectral digital imagery, LIDAR/photogrammetry, integrate integrate remotely sensed data sets into data systems
- Schedule: Annual
- FY04 Cost Projection: $363,000 (The effect of the budget reduction is unknown at this time.)